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Quality Engineering Test Report

SERIES: MPS-45 45W WATTS SIGLE OUTPUT SWITCHING POWER SUPPLY OPEN FRAME TYPE

SAMPLE:

A.MPS-45-3.3	:3.3V/8A	D.MPS-45-12	:12V/3.7A	G.MPS-45-24	:24V/1.9A
B.MPS-45-5	:5V/8A	E. MPS-45-13.5	:13.5V/3.3A	H.MPS-45-27	:27V/1.7A
C.MPS-45-7.5	:7.5V/5.4A	F. MPS-45-15	:15V/3A	I.MPS-45-48	:48V/1A

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
1	AC INPUT VOLTAGE RANGE	I/P:TESTING SPEC:90~264VAC O/P:FULL LOAD	A:50.875VAC~264VAC	P
2	LINE REGULATION	I/P:90~264VAC SPEC: A: ±1% O/P:FULL LOAD B: ±1% C: ±1% D: ±1% E: ±1% F: ±1% G ±1% H: ±1% I: ±1%	A: -0.00% ~ +0.00% B: +0.12% ~ +0.12% C: -0.00% ~ +0.00% D: +0% ~ +0.05% E: +0.00% ~ +0.00% F: +0.00% ~ +0.04% G: +0.00% ~ +0.0% H: +0.00% ~ +0.00% I: -0.01% ~ +0.00%	P
3	LOAD REGULATION	I/P:230VAC SPEC: A: ±3% O/P: B: ±3% MIN. TO FULL LOAD C: ±3% D: ±2% E: ±2% F: ±2% G: ±2% H: ±2% I: ±2%	A: +0.179% ~ +0.179% B: -0% ~ +0.24% C: -0.24% ~ +0.08% D: -0.05% ~ +0.05% E: -0.08% ~ +0.04% F: -0.00% ~ +0.00% G: -0.025% ~ +0.025% H: -0.00% ~ +0.00% I: -0.01% ~ +0.00%	P
4	OUTPUT VOLTAGE TOLERANCE	I/P:90~264VAC SPEC: A: ±3% O/P: B: ±3% MIN. TO FULL LOAD C: ±3% D: ±2% E: ±2% F: ±2% G:±2% H: ±2% I: ±2%	A: +0.00% ~ +0.179% B: -0.36% ~ +0.00% C: -0.33% ~ +0.00% D: -0.11% ~ +08% E: -0.14% ~ 0.00% F: -0.04% ~ +0.00% G: -0.05% ~ +0.025% H: -0.048% ~ +0.00% I: -0.04% ~ +0.00%	P
5	RIPPLE & NOISE	I/P:230VAC SPEC: A:80mV O/P: FULL LOAD B:100mV C:100mV D:100mV E:100mV F:100mV G:100mV H:100mV I:100mV	A: 13mV B: 14mV C: 7mV D: 13mV E: 7mV F: 16mV G: 9mV H: 5mV I: 10mV	P

NEXT

NO	TEST ITEM	TEST CONDITION / SPECIFICATION	RESULT	VERDICT
6	AC INPUT CURRENT	I/P:230VAC SPEC: 0.7A O/P:FULL LOAD	A:0.381A	P
7	MAX. INRUSH CURRENT	I/P:230VAC SPEC: 40A O/P:FULL LOAD	A:27.41A	P
8	O/P VOLTAGE ADJ.RANGE	I/P:230VAC SPEC: ±10% O/P:MIN. LOAD A:2.97V~3.63V B:4.5V~5.5V C:6.75V~8.25V D:10.8V~13.2V E:12.15V~14.85V F:13.5V~16.5V G:21.6V~26.4V H:24.3V~29.7V I:43.2V~52.8V	A:2.701V~4.016V B:4.3V~6.03V C:6.6V~9.01V D:10.155V~13.659V E:11.25V~16.29V F:12.43V~17.518V G:20.04V~27.33V H:22.28V~32.74V I:40.21V~55.42V	P
9	SET UP TIME	I/P:230VAC SPEC:800ms O/P:FULL LOAD	A:280.26mS	P
10	HOLD UP TIME	I/P:230VAC SPEC:20mS O/P:FULL LOAD	A:120.3mS	P
11	EFFICIENCY	I/P:230VAC SPEC: A:65% O/P: FULL LOAD B:72% C:75% D:76% E:76% F:77% G:78% H:78% I:78%	A: 66.69% B: 74.19% C: 76.89% D: 77.69% E: 78.62% F: 79.95% G: 81.3% H: 81.97% I: 82.72%	P
12	OVER LOAD PROTECTION	I/P:230VAC SPEC: A: 36~55W O/P: TESTING B: 53~75W C: 53~75W D: 53~75W E: 53~75W F: 53~75W G: 53~75W H: 53~75W I: 53~75W	A: 45.86W B: 66.29W C: 66.38W D: 68.42W E: 63.86W F: 65W G: 60.89W H: 68.25W I: 66.47W	P
13	OVER VOLTAGE PROTECTION	I/P:230VAC SPEC: 115%~135% O/P:TESTING A : 3.795V~4.455V B : 5.75V~6.75V C : 8.625V~10.125V D : 13.8V~16.2V E : 15.525V~18.225V F : 17.25V~20.25V G : 27.6V~32.4V H : 31.05V~36.45V I : 55.2V~64.8V	A: 4.3V B: 6.06V C: 9.45V D: 15.1V E: 16.6V F: 18.4V G: 31.8V H: 33.4V I: 56.52V	P

PREVIOUS NEXT

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>TEST CONDITION / SPECIFICATION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td>14</td><td>GROUND LEAKAGE CURRENT</td><td>I/P:240VAC SPEC:
L-FG--<0.3mA
N-FG--<0.3mA</td><td>B: L-FG: 0.02mA
N-FG:0.02mA</td><td>P</td></tr>
<tr><td>15</td><td>INSULATION RESISTANCE</td><td>SPEC: O/P-FG 500VDC/100MOhms MIN.
I/P-O/P 500VDC/100MOhms MIN.
I/P-FG 500VDC/100MOhms MIN.</td><td>A: O/P-FG >100MOhms
I/P-O/P >100MOhms
I/P-FG >100MOhms</td><td>P</td></tr>
<tr><td>16</td><td>DIELECTRIC / WITHSTAND VOLTAGE</td><td>SPEC: I/P- O/P: 4000VAC/ 1 sec
I/P - FG: 1500VAC/ 1 sec
O/P - FG : 500VAC/1sec</td><td>A: I/P-O/P :2.1mA
I/P-FG :1.3mA
O/P- FG 2.9mA</td><td>P</td></tr>
<tr><td>17</td><td>BURN-IN TEST</td><td>I/P: 230VAC O/P:FULL LOAD
TA:25°C BURN-IN DURATION :2hrs</td><td>A: NON BREAK</td><td>P</td></tr>
<tr><td rowspan="3">18</td><td rowspan="3">ENVIRONMENT TEST (SAMPLE B)</td><td>1.LOW TEMPERATURE TEST
I/P:230VAC O/P:FULL LOAD
AMBIENT TEMPERATURE:-10.1°C</td><td>AFTER 3.5 hrs
POWER ON OK</td><td rowspan="3">P</td></tr>
<tr><td>2.HIGH AMBIENT TEMPERATURE FULL LOAD TEST
I/P:230VAC O/P:FULL LOAD
AMBIENT TEMPERATURE:40.5°C</td><td>AFTER 5 hrs
NON BREAK</td></tr>
<tr><td>3.High Humidity High Voltage On/Off Test
I/P:267VAC O/P:FULL LOAD
AMBIENT TEMPERATURE: 25 °C
AMBIENT HUMIDITY: 95 %</td><td>AFTER 18 hrs POWER ON
NON BREAK</td></tr>
<tr><td>19</td><td>TEMPERATURE RISE TEST Trise OF PARTS</td><td colspan="2">I/P :230VAC AFTER 3 hrs BURN-IN
O/P :FULL LOAD TA:30.4°C
<table>
<tr><th>POSITION</th><th>P/N</th><th>TEMP</th><th>Trise</th></tr>
<tr><td>BD1</td><td>BRIDGE DIODE</td><td>67.4C</td><td>37°C</td></tr>
<tr><td>Q1</td><td>MAIN TRANSISTOR</td><td>74.6C</td><td>44.2°C</td></tr>
<tr><td>T1</td><td>MAIN TRANSFORMER COIL</td><td>78.0°C</td><td>47.6°C</td></tr>
<tr><td>D40</td><td>O/P DIODE</td><td>95.8°C</td><td>65.4°C</td></tr>
<tr><td>C5</td><td>I/P FILTER CAPACITOR</td><td>81.3°C</td><td>50.9°C</td></tr>
<tr><td>C41</td><td>O/P FILTER CAPACITOR</td><td>58.8°C</td><td>28.4°C</td></tr>
<tr><td>T1</td><td>MAIN TRANSFORMER CORE</td><td>84.0°C</td><td>53.6°C</td></tr>
<tr><td>D1</td><td>CLAMP DIODE</td><td>91.2°C</td><td>60.8°C</td></tr>
<tr><td>LF1</td><td>LINE FILTER</td><td>49.3°C</td><td>18.9°C</td></tr>
</table></td><td>P</td></tr>
<tr><td>20</td><td>LIFE CYCLE</td><td colspan="2">SUPPOSE C41 IS THE MOST CRITICAL COMPONENT
I/P:230VAC O/P:FULL LOAD Ta:25°C Tc41:58.8°C Life: 155727 hrs
I/P:230VAC O/P:FULL LOAD Ta:40°C Tc41:68.2°C Life: 57804 hrs</td><td>P</td></tr>
<tr><td>21</td><td>CRITICAL COMPONENT RECORD (FOR QC INSPECTION REFERENCE ONLY)</td><td colspan="3">FUSE :4A/250VAC MET
BRIDGE DIODE :D3SB60
LINE FILTER :TF-484.
TRANSFOMER :LS TF-757
POWER SWITCHER :2SK2545
OUTPUT DIODE :MBR1545CT
OUTPUT CAPACITOR : 1000uF/16V , 105°C
INPUT CAPACITOR :HITACHI 150uF/400V,85°C
P.C.B :MPS-65,CEM-3 2OZ SS</td></tr>
</table>

PREVIOUS NEXT

DATE	SAMPLE	TEST RESULT	TEST	PROVAL
20010605	RD SAMPLE MPS-45 3.3V,5V,7.5V,12V 13.5V,24V,27V,48V	PASS	VINCENT	Max Lin
20010824	PRODUCT A107C28 MPS-45 3.3V,5V,7.5V,12V 13.5V,24V,27V,48V	PASS	VINCENT	Max Lin
20020411	PRODUCT A203B04 MPS-45 5V,12V	PASS	VINCENT	Max Lin
20020618	PRODUCT A206B03 MPS-45 15V,27V	PASS	VINCENT	Max Lin
20020919	PRODUCT A208A02 MPS-45-3.3V	PASS	VINCENT	Max Lin

PREVIOUS